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THE OHIO STATE UNIVERSITY

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Educational Research Bulletin

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Defining and Measuring Objectives of Progressive Education

By RALPH W. TYLER

Last year the general plan for the program of evaluation in connection with the Eight-Year Study was considered, emphasizing the significance of a careful program of appraisal.[1] I use the terms "appraisal" or "evaluation," rather than "measurement," because the last may imply only refined and exact assessments. Evaluation is needed by the schools to discover the points at which difficulties are encountered so that modifications or revisions may be made, and to determine the effective aspects of the program which result in noteworthy achievements. The schools need a more comprehensive means of evaluating the progress of pupils so that counseling and guidance may be more effectively and wisely done. The schools co-operating in the Eight-Year Study are fortunate to have this opportunity for pioneering, and they owe an obligation to report the results in careful, impartial, and accurate terms.

The general procedure proposed for this appraisal program was outlined last year. Since each of the thirty schools in the study is free to develop an educational program which offers greatest promise under the local conditions for the pupils in that school, no single set of tests for all schools was considered, but the plan of evaluation was set up to provide a means by which each school could appraise its work by its purposes. Furthermore, since these schools are concerned with the development of boys and girls in all of the major aspects of life, the evaluation program was conceived not merely as the giving of paper-and-pencil examinations, but as a means of collecting important, pertinent evidence about such development.

[1] Tyler, Ralph W. "Evaluation: a Challenge to Progressive Education," Educational Research Bulletin, XIV (January 16, 1935), pp. 9–16.

The major task foreseen was the evolution of appropriate appraisal instruments for certain significant aspects of pupils' development which are not covered by the available tests. We proposed to work co-operatively with the staffs of the thirty schools to develop instruments by means of which evaluation of these less tangible objectives might be made. This progress report will indicate the steps which have been taken in the evaluation program proposed last year and will describe the tasks now under way.

THE first step taken last year was to ask each of the schools to formulate in clear and understandable fashion its major purposes; that is, to indicate what changes in its pupils the new educational program was expected to facilitate. These statements represented the objectives of the schools, as they were conceived at the time the formulations were made. Each school was then asked to go through the list of objectives and indicate the procedures it was following, if any, for obtaining evidence of the degree to which each objective was being realized. For certain objectives the schools had no satisfactory or practical methods by which the desired evidence might be obtained, and for these new instruments of evaluation had to be developed. Since there were many such, not all of the needed instruments could be attacked at once. From these objectives, five were selected for study because they were mentioned frequently by the schools and because they represented various aspects of pupil development. For each of these five areas co-operative interschool committees, made up of interested teachers from those schools striving for that objective, were formed to assist in developing instruments of evaluation. One committee was concerned with the evaluation of interests and attitudes; a second, with the appraisal of work habits and study skills; a third, with the evaluation of abilities involved in applying facts and principles to concrete situations; a fourth, with the evaluation of the abilities involved in the interpretation of data; and a fifth, with the evaluation of sensitivity to significant problems.

The interschool committees are assigned several functions. In the first place, their task is to clarify the meaning of these objectives. Many of the statements of educational purposes are vague and might mean different things to different people. Before any instruments of evaluation can be developed, the

meaning of the objectives must be understood in order that the kinds of behavior which the school is trying to develop may be recognized and effective ways for obtaining evidence of these types of behavior among the pupils may be found.

THE task of clarifying educational objectives is more difficult and important than we had realized. In the first place, the terminology typically used in stating objectives is surprisingly vague, and the meanings attached to many of these statements vary markedly among the schools. In the second place, many statements of objectives are expressed in terms of the duties of the school rather than in terms of the changes expected in pupils. Obviously, the latter is the type of statement essential for appraisal, since the task of evaluation is to determine the degree to which these desired changes are taking place. To express these original statements in terms which would be understood clearly by all the schools concerned and to define these objectives by describing the kinds of changes desired in pupils demand thoughtful discussion, questioning, wording, and re-wording.

For example, the phrase "sensitivity to significant problems" was discussed, worded, reconsidered, and re-worded for the schools were using this phrase to mean that they hoped to develop pupils who are aware of significant problems of modern life, who are able to analyze problems indicating the crucial difficulties involved, who are really concerned in the overcoming of these difficulties, and who can develop a plan which is appropriate for their abilities and opportunities for the solution of each problem. These four types of behavior were more clearly understood than the original phrase, and this problem of evaluation was clarified. To appraise "sensitivity to significant problems" we must collect evidence of the degree to which pupils are aware of significant problems, are able to analyze them, are concerned in solving them, and able to plan appropriate action.

As another illustration of the value of definition of objectives, the Committee on Work Habits and Study Skills found it necessary to extend the usual conception of study skills in order to make clear the investigatory skills which these schools are trying to develop in their new work. By this objective, the schools mean that they are trying to develop pupils who are able to determine what data are needed to answer important

questions; who are familiar with dependable sources of data; who are able to locate the data in these sources; who are able to obtain information from books and libraries, by observation, by interviewing and letter-writing; who are able to distinguish pertinent data from the irrelevant; and who are able to organize and present the material effectively. This clarification of objectives shows that the schools need not only reading tests and tests of written expression, but also tests covering these other investigational skills.

These two cases will illustrate the need for clarification and the value of the resulting definitions. In any such program the real objectives of the school are essential and not those to which lip service only is given. The formulation of objectives is not an easy task. Sometimes, in our committees we find that schools are frequently tempted to accept glib statements rather than to formulate their own serious purposes. Hence, as we try to define objectives, we do not ask, "What is meant by this phrase?" but, "What does your school mean by this objective?" "What are you trying to accomplish?" The discussion is focused upon the real purposes of the school and not upon the conventional definition of terms.

Sometimes, in visits to the school we sense a purpose which is not expressed. We must ask, "What do you expect to result from this activity?" Only in this way can we clarify some significant objectives which have been so basic to the work of the school that it has never given conscious thought to them, and also those vital purposes which some schools fail to express because of the limitations of our educational vocabulary. The work of the Committee thus far indicates that vagueness of statement does not necessarily mean vagueness of purpose. This step of clarification is necessary to provide an understanding of the real objectives toward which the schools are striving, and in terms of which the programs of the schools must be appraised.

THE next function of the committees was to explore possible methods of collecting evidence about these kinds of changes. For example, one member of the Committee on Interests and Attitudes explored the possibility of obtaining evidence of developing interests by direct observation of young people and the recording of these observations. Another committee member experimented with collecting evidence about interests

by the keeping of diaries. A third committee member explored the possibilities of the interview, and a fourth tried types of interest tests. The purpose of this exploratory period was to discover the more promising means for obtaining evidence which might be worth further experimentation, and also to discover the defects which must be overcome and the values which seemed to inhere in each of these possible procedures.

This exploratory use of possible procedures reveals promising general procedures by which desired evidence can be collected. When perfecting a definite instrument to be employed in a particular school, smaller groups or perhaps even one or two individuals work more effectively. For this purpose, a test laboratory has been set up at our staff headquarters at Columbus. This is a laboratory which contains a collection of helpful materials, including promising tests and other instruments, and provides a place where one or two teachers at a time may work intensively with members of the evaluation staff in the construction of actual instruments for use in a particular school.

One misconception of the program which I have heard from several sources is that these thirty schools are not interested in teaching facts and information. This is not true. The objectives from each of the schools show a concern that pupils will obtain accurate and realistic information, not, however, as a matter of rote memorization to be given glibly back to the teacher at examination periods but rather, for effective use. These pupils will be tested to determine the degrees to which they have acquired and can use significant facts and ideas. The emphasis of the evaluation program is upon a comprehensive appraisal —upon the inclusion of instruments to give evidence of the development of these pupils in all the important aspects rather than the mere testing of facts remembered. As the work proceeds we hope to extend the available means of evaluation so that a comprehensive appraisal may be increasingly possible.

DURING this year, the significance of careful appraisal has become apparent from another point of view. These schools have maintained that the necessary freedom which secondary schools must have in order to reconstruct their curriculums continuously demands liberation from prescribed units and courses and emancipation from imposed entrance examinations, both of which tend to give inflexibility to a program which

needs to be highly sensitive to our changing society. But the colleges, on the other hand, do need information about prospective students, both for the purposes of admission and for purposes of effective guidance after they have been admitted to college. College authorities recognize that the usual transcript of credits and the results on college-entrance examinations are not wholly satisfactory bases either for selection of students or for guidance. They are, however, of some value, and before secondary schools may expect to have the freedom they desire as a more or less permanent policy, a more satisfactory method of appraising students' abilities and potentialities—a method which will provide information helpful to the college in selection and guidance, and, at the same time, will not impose an inflexible and uniform curriculum on the schools must be found. We shall need to follow our students into college and study their efforts in relation to the evaluation data to find out which of these appraisal instruments are useful to the college and, if possible, to improve their value for this purpose.

Appraisal is important in any educational experimentation. The time when arguments and impassioned pleas would justify the wholesale extension of an educational program is past. The significance of the Eight-Year Study must be judged in terms of its effectiveness in promoting desirable educational changes in boys and girls. The purpose of the evaluation program is to develop procedures by which we may determine the changes taking place in these boys and girls and thereby to enable each school to discover year by year the degree to which it is accomplishing its significant educational purposes. [Vol. XV, No. 3]

Teaching Opportunities in 1935

By EARL W. ANDERSON

THE steady increase in opportunities in teaching which began late in the summer of 1933 and continued through 1935 was apparent throughout most of the country. A few new positions were added: some of these were restorations in previously discontinued areas, but most of the improvement seems to have come about because an increasing number of

persons left the profession and because the return of former teachers to the schools had ceased.

Sixty-eight per cent of the 338 graduates of the College of Education, Ohio State University, in 1935 who desired teaching positions obtained them by December 31 of that year. An additional 2 per cent were employed by March 15, 1936. This compares well with the 58 per cent placed in 1934 and the 43 per cent in 1933. Probably an additional 5 per cent could have secured positions each year had they not set up limitations as to salary, type of community, and distance from home. Nine per cent of the graduates did not desire teaching positions; the percentages given in this report are based upon the 91 per cent of the graduates who did desire positions.

The graduates of previous classes are gradually securing teaching positions: 17 members from the class of 1934 and 29 from the class of 1933 secured their first teaching positions in 1935. Some of these graduates were materially helped in getting such employment because they had taken one or more years of graduate training, for many of the high schools of the state are demanding Masters' degrees.

Table I shows the success of the graduates in obtaining teaching positions since 1931, listed by subject majors. In considering opportunities in the various fields, graduates who majored in two fields were counted twice, once in each field. Thus one who majored in English and who also majored in history is listed once under the English majors and again under the history majors in considering opportunities in various areas. Fifty-six graduates took majors in two subjects; one in three subjects. A number of those had minors in additional areas.

The increase in opportunity was not the same in all fields. Definite improvement was found in those areas in which opportunity was rather good in 1934. Thus more than 90 per cent of the graduates majoring in agricultural education, industrial arts, and home economics obtained positions, and more than 80 per cent of those in music and in elementary education. In only two fields were less than half of the graduates placed.

Nineteen of the graduates of 1935 who secured teaching positions made no use of their major training. Five of these were elementary-school teachers who obtained their degrees in secondary-school subjects, then returned to the former positions. The others were teaching subjects outside of their major.

In fields having fewer than ten graduates in 1934 the employment was as follows:

Subject	Number of Graduates	Number Placed
Commercial subjects	10	10
Geography	3	2
German	2	1
Nursing education	10	10
Physics	1	1
Psychology	2	2
Spanish	4	3
Economics	2	1

Questions frequently arise as to the comparative success of men and women in securing employment in specific subjects. The small number of majors in many of the fields makes such comparisons of doubtful value. Likewise, in some instances, the number of people who return to former positions or who teach entirely outside their major subjects may so weight the results as to give the wrong impression as to real opportunity. In only five fields would these comparisons seem feasible, and in these areas the comparisons were made only on the basis of opportunities in teaching one or more classes in that subject. One of the two men in fine arts obtained a position as compared with 53 per cent of the fifteen women. The one woman prepared to teach chemistry did not obtain a position. In biology, eight of the nineteen men, 42 per cent, and seven of the eight women, 86 per cent, were placed. Ten of the twenty men in English obtained positions as compared with sixteen of the thirty-three women, 48 per cent. In French, the two men were not placed, as compared with six of the twelve women placed. In history, employment was secured by fourteen of the twenty-eight men, and by nine of the eighteen women. There were no women in physics, and there were no men in elementary education.

Often the minor field or fields of preparation and the number of different fields in which a graduate is prepared to teach are factors in obtaining positions. Thus, a person who majors in English may secure a position primarily because he has minors in combinations of other subjects which are in demand. These influences upon employment, coupled with practices of employing only home-town teachers regardless of the major training, may affect placement of majors so as to make any

conclusions as to opportunity of little worth especially if there are few majors in that field.

Opportunities in 1936 should follow the general trend of improvement that has occurred during the past three years. There will be a reduction in competition from former gradu-

TABLE I

THE PERCENTAGE OF THE GRADUATES OF THE COLLEGE OF EDUCATION FOR EACH OF THE LAST FIVE YEARS WHO SECURED TEACHING POSITIONS DURING THE YEAR OF GRADUATION

	Number of Graduates in 1935 Desiring Positions	Percentages Placed in Teaching Positions December 31 of the Year of Graduation				
		1935	1934	1933	1932	1931
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Agricultural education	24*	96	84	66	59	81
Biology	26	54	29	47	41	50
Chemistry	19	47	54	18	62	67
Elementary education	52	85	75	60	59	62
English	53	47	47	37	37	44
Fine arts	17	53	26	48	31	37
French	14	43	56	60	33	17
History	46	50	55	44	40	39
Home economics	36†	97	73	43	66	78
Industrial arts	18	94	71	39	75	94
Latin	6	67	55	63	20	86
Mathematics	27	70	53	40	26	57
Music	28	89	87	50	65	67
Physical education						
Men	15	53	47	13	.....	.....
Women	20	70	67	41	.....	.....
Combined	35	63	60	27	30	43
Total	335	68	58	43	40	49

* All graduates of teacher-training courses in the College of Agriculture.
† Includes 34 graduates of the College of Agriculture and 3 of Education.

ates. General industrial improvement and continued low salaries in teaching likely will move some teachers into other occupations. Improved conditions for financing the schools should tend toward some little expansion in the number of teaching positions in the state.

Student Teaching in Ohio Colleges

By GEORGE C. FRACKER

RECENTLY the College of Wooster faced the problem of the modification of its arrangements with the public schools in regard to compensation for observation, participation, student teaching, and the method of co-operation between the college and the public schools. In order to get some help in the solution of this problem, it was decided to make inquiry of some twelve other colleges of the state with situations similar to our own. A questionnaire was sent out bearing upon these two phases of teacher training: compensation and co-operation. This investigation yielded results which may be of interest to others.

A definition of terms as used in this report seems necessary since disagreement in usage exists among those concerned with student teaching:

"Supervising" teacher is used rather than "critic" teacher because of the connotation of the term "critic." Supervising teacher is a more dignified term and describes more exactly the work of the public school staff member who conducts student teaching.

"Student" teacher is used rather than "practice" teacher. It is true that the student is "practicing" frequently in the same sense in which a bass-drum player practices on his instrument, but guiding a child in learning is far from being of that sort of practice. Then, too, what parent wishes to have his child practiced upon? Here again "student teacher" describes the responsibility and the work of the student more definitely than does the term "practice teacher."

We will use the term "director" to mean the member of the education staff of the college or the administrative staff of the school system who directs the work of the supervising teacher in conjunction with that of student teaching.

Including Wooster, fourteen colleges responded. Each of the colleges responded "yes" to the first three questions:

Do you use the public schools for student training?
Do you use the public schools for observation and participation?
Do you compensate the public schools for this service?

In summarizing the replies to other questions it seems desirable to divide the colleges into two groups. For one reason or another some of the colleges pay to the public schools a lump sum. These colleges bear a somewhat different relation to the

schools than do those colleges which compensate in terms of the services of supervising teachers or in terms of student teachers.

A study of the returns from the lump-sum colleges gives the general impression that often the colleges wished the arrangements were on other terms, in as much as compensation in a lump sum does not fix responsibility and causes a break in the co-operation of college and public school. Most colleges recognize that the compensation should be in terms of service rendered by individuals rather than through a general arrangement with a school board. It seems to be generally recognized that the stress of special preparation for the supervision of student-teaching rests upon the supervising teacher, that the public school profits by the fact that its regular staff is improved because of the requirements set up for supervising teachers. Four of the colleges mentioned in this investigation have special lump-sum arrangements with school boards, and the only way in which their procedures can be explained in this regard is to give description in terms of the individual college. This report will not include these specific college arrangements.

This elimination of four colleges leaves ten colleges sufficiently similar in plan to draw some conclusions. Nine of the ten colleges use the student-teacher basis for compensation and one uses supervising-teacher basis. By student-teacher basis we mean that the supervising teacher is paid in terms of the number of student teachers supervised per semester. By supervising-teacher basis we mean that the supervising teacher is paid in terms of supervision per semester regardless of the number of students. Three of the ten colleges use a graduated scale in the payment of compensation. These colleges base their scale of compensation on experience and the holding of a Master's degree by the supervising teacher. Seven of the colleges do not have a graduated scale but pay the same amount to the beginner as to the experienced supervisor. For example, in one college the supervising teacher is paid in terms of the number of student teachers she supervises each semester. For this she receives $15 per student teacher. When she has supervised five student teachers her compensation is increased to $20. When she has supervised ten, her compensation is increased to $25 per student teacher. And when she has had experience with fifteen student teachers, her compensation is increased to $30 per student teacher per semester.

Nine of the ten colleges compensate the supervising teacher. Some of these send checks to the supervising teachers through the school board for distribution, while the others send the check directly to the supervising teacher. One of the colleges did not reply to this question.

In answer to the question, How much do you pay for observation and participation for a group of observers per semester? eight of the ten colleges do not compensate the public schools for observation of the students. One college pays from one-third to one-half as much for observation and participation as for student teaching, while another college pays at the same rate as for student teaching. In this case the college sends observers to the school in groups of from four to six during a semester to observe a particular class exercise. This latter college has an arrangement with the supervising teacher whereby she is kept posted as to the nature of the observation proposed and as to the time to expect the group of observers to attend the class. The supervising teacher is provided with copies of the textbook used in the education classes in which observation is carried on and the notebook, if any, used by the student. The teacher then makes a definite effort to demonstrate the problem or principle being discussed in the education class of which the observation is a part. The college feels that such work is of as much value to the training of students as is the guidance of the student teacher. Consequently, the pay is the same.

The practice among these ten colleges in regard to the compensation for student teaching varies somewhat. The range of compensation per student teacher per semester varies from $15 to $30. Eight of the colleges gave their compensation for student teaching in such form that comparisons can be made. The average of these eight is $25.81. One college doubles its compensation to the supervising teacher who holds the Master's degree. One college graduates its scale from $15 to the inexperienced teacher to $30 to the experienced teacher holding a Master's degree.

In a similar study made by the writer in 1932 the compensation was a few dollars above these figures. The lower rate mentioned in 1936 is probably due to depression measures. In 1932 the fees charged by the college for student teaching varied from $2 per credit hour to $25, averaging $15.58.

Questions were also asked in regard to the relation of the superintendent of the public-school system to teacher training. In one college the superintendent is the assistant director of teacher training and shares responsibility with the head of the department of education or with the director of teacher training of the college. In another college he seems to have about the same power but does not hold the title. In still another college the student teachers are regarded as members of the teaching staff of the school in which they teach. In two colleges the superintendent exercises the same supervision of student teachers as that of the staff teachers of the school. In three colleges he approves the selection of the student teachers. In several colleges he has no connection with the teacher-training program.

In answering the question in regard to the number of times the superintendent visits student teaching and what relation he bears to supervision of the teacher's work, the replies range from no connection to one visit each semester to five or six times per semester.

Does the superintendent report or confer with the director of teacher training in regard to his observation of student teachers? Replies again range from "no" to "close co-operation." Many colleges seem to have no definite plan for supervision by the superintendent or at least do not report it.

In regard to the compensation received by the superintendent from the college for his specialized supervision, seven say "nothing"; two say "yes"; and one does not answer. The amount of compensation is mentioned by the two colleges and varies. One pays $50 per semester, and the other pays a yearly salary of $400.

The same questions were asked in regard to the connection with teacher training of the high-school principal as in the case of the superintendent. In the main, the principal has a closer connection with the work of student teaching than the superintendent and, in some cases, less. In some colleges he is the one consulted by the college teacher-training official or officials and co-operates in the selection and supervision of student teaching rather than the superintendent. In two colleges he visits the student teacher several times a semester. Several colleges fail to answer this question. In five colleges he advises with the student teacher as well as with the supervising teacher and the

director. About one-half of the ten colleges answer that the principal does not supervise the work of the student teacher, whereas the remaining colleges have failed to answer this question.

Three of the ten colleges offer no compensation or honorarium to the principal for his supervision. Three of the colleges, however, offer $75, $200, and $275, respectively.

By way of conclusion one might say that each college seems to be trying to meet the conditions under which it finds itself. At the same time it is apparent that the colleges could profit by an interchange of experience in this complex field of teacher training.

After reading these reports one begins to wonder just how much the supervision of student teaching, on the part of the supervising teacher, superintendent, and principal, is really worth and as to whether the college and public schools are not missing much that would benefit in the better training of teachers and a better safeguarding of the interests of the pupil if there were a more definite and thoroughgoing plan in the matter of supervising.

Judging from college experience, as indicated by these returns, it would seem that compensation should be paid to those engaged in the actual procedures of supervision rather than the school system as a whole. The public schools profit by the increased preparation and skill in supervision of these better trained teachers without much, if any, increase in salary.

One is impressed, too, with the fact that a number of the colleges are dissatisfied with their present arrangements with the public schools and would like to have them changed but are apparently groping without much hope of arriving at a workable basis. It would seem that the State Department of Education could strengthen this whole matter by setting up more definite standards for the preparation of supervisors and backing up the colleges in their attempt to lift teacher-training requirements.

Before Oswego

By H. G. GOOD

SHELDON of Oswego has commonly been given the credit for first introducing into the United States from Toronto the materials and practices of the English Pestalozzians.[1] The purpose of this note is to show that contrary to the opinions written down in the textbooks, A. J. Rickoff, superintendent of schools of Cincinnati, visited the Toronto Normal and Model School three or four years earlier than E. A. Sheldon. He brought to Cincinnati in 1856 samples of those Pestalozzian teaching materials which Sheldon also imported in 1860 and recommended their use by arguments drawn from experience and a wide circle of English, German, and American writers. He is not any more critical of formal object-lessons than Sheldon. Although many of his paragraphs seem to approve the more flexible system of the German Pestalozzians rather than the rigid English system yet he is not clear or decisive. This may indicate that it is often difficult even for an expert educator, such as Rickoff was, to evaluate current practices.

We quote the *Superintendent's Report to the Board of Trustees and Visitors of the Cincinnati Common Schools* for 1857 in support of several of the preceding statements:

> The advantages of visible illustrations in teaching the young have been long appreciated, but strange to say, they have been used only in the higher grades of schools. At this time we are wisely spending hundreds of dollars to furnish the High Schools with philosophical and chemical apparatus . . . [but are unwisely neglecting the lower grades where the need for visible illustrations is greatest].
>
> On visiting the Educational Depository of the Province of Upper Canada, one cannot but be deeply impressed with the fact that our neighbors on the north of the lakes either understand the philosophy of primary instruction better than we do, or that they are more liberal to supply acknowledged wants than we are. Deposited in the Superintendent's office will be found a large number of specimens of the cards and apparatus which were obtained from this Depository in October last. They suggest the proper supply of some of our wants. [The succeeding paragraphs mention reading cards, spelling tablets, the arith-

[*Continued on page 91*]

[1] *See* almost any general history of education textbook and the special books dealing with the Oswego Movement.

EDITORIAL COMMENT

Importance of Educational Aims

THE schools have always been criticized more or less either for not having a definite concept of what they are trying to do, or for attempting to do the wrong thing; in other words, they have been criticized for not possessing aims, or for not possessing proper aims. That this criticism is often valid is demonstrated by the fact that when school officials and employees are requested to state the aims of the school, they give evidence of not having devoted much thought to the matter; instead of having ready and clear replies they exhibit vagueness, hesitation, and stumbling; they do not seem to know what they want.

Instead of being guided by modern aims, which would be based upon modern needs, many schools today are content to follow tradition; too many of them are trying to meet the needs of present-day society with the aims, subject-matter, and methods of the schools of past centuries. In many schools certain types of administrative organization and teaching techniques are retained only because they have always been used; certain subjects or parts of those subjects are retained long after the need for them has passed away, and antiquated textbooks still continue to determine largely the materials of instruction. What the schools are is often determined by vested interests and the dictates of small but vigorous minorities rather than by the needs of all society and the welfare of the individual; and it is an unfortunate commentary that these vested interests are frequently found among school officials and school employees as well as among the general public. In brief, these vested interests fight to retain the *status quo* and resist any change whether in the social order or in the schools.

The corrective which must be applied to the situation just described is the formulation of a school program which is based first and last on aims which will meet the needs of a rapidly changing social order. If the schools are not guided by such aims, they are likely to exhibit the sentiment of the old saying, "We don't know where we're going but we're on our way." Bad as such a sentiment is, there is another sentiment which is

worse, namely, for us not to care "where we're going." Without aims, neither the individual nor the institution is likely to realize his or its potentialities. Without aims the school official or employee is like a ship without chart or compass on the pathless sea; in such a situation the place of arrival is apt to be anywhere, and such an uncertain port can be reached only after large travail and effort. The first essential of educational statesmanship is, therefore, to know what is wanted.

Not only must there be aims of education but these aims must be proper; in other words, we must make certain that we need what we want. Improper aims would be worse than none, especially if they were possessed by school officials and teachers who were implemented with excellent materials and methods; this is true because the aims would be accomplished more surely and more quickly by such persons. Moreover, if improper aims are accomplished, when discovery is made that the aims are improper, a large amount of time and effort would have to be wasted by the pupils in trying to unlearn what they had previously learned. In summary, proper educational aims are a *sine qua non* if the school is to realize its potentialities. Such aims would be helpful to several groups of persons.

First, proper aims would be helpful to boards of education, superintendents, principals, and other school officials in organizing, equipping, and administering the school program. If they were guided by such aims, school officials would be more competent to select teachers and other employees to assist in accomplishing the aims. Moreover, the best kinds and amounts of school buildings, sites, libraries, textbooks, and other equipment and materials would be secured which would contribute to the realization of those aims.

Second, proper aims would be helpful to parents and to the general public because these persons would then know what the schools were trying to do, and they would then be able to appraise the efforts and accomplishments of the schools in terms of those aims. At present it must be admitted that the concept of parents and of the general public of what the schools are trying to do is extremely vague; this condition obtains largely because most school officials and employees possess only a hazy concept of the aims of the school, or if they possess a

well-defined concept of those aims they have not taken the time to acquaint parents and the general public with them.

Third, proper aims would give direction and zest to the work of school employees and especially to the largest group of school employees, the teachers. If all teachers had similar or fairly similar aims they would be better qualified to work cooperatively toward the accomplishment of those aims; without such aims, teachers are likely to work blindly or at cross purposes. If they possessed aims, instead of being merely task makers in arithmetic, English, Latin, and other subjects, teachers would try to make their work contribute to the accomplishment of that program; in other words, their activities would be purposeful.

Fourth, proper aims would assist in giving direction and zest to the work of the pupils. If the aims of the school were made known to the pupils, the pupils would know for what they were striving and their efforts would be directed, purposed, and vitalized.

WARD G. REEDER

READINGS

In Paper Covers

HAYNES, HUBERT CALVIN. *Relation of Teacher Intelligence, Teacher Experience, and Type of School to Types of Questions.* Nashville, Tennessee: George Peabody College for Teachers, 1935. 41 pp. (Contributions to Education, No. 150)

Stenographic reports were made of questions asked by 56 elementary-school teachers, all graduates of the same normal-school course. Twenty-eight of these teachers taught in one- and two-room rural schools, whereas 28 taught in graded schools. All reports were of questions asked in sixth-grade history recitations. The author attempted to discover relationships between the types of teachers' questions and intelligence, experience, and types of schools in which the teaching was done. The questions asked were classified as fact, thought, alternate, leading, and current.

"Teachers in all three types of schools asked about the same number of fact and thought questions. The teachers in one-teacher schools asked one-third more alternate and leading questions than did the teachers in two-teacher schools and more than twice as many as grade teachers." Experienced teachers asked fewer questions than did inexperienced, the more intelligent teachers asked more thought questions. However, this may have been influenced by the fact that the more intelligent teachers were found in the graded schools. No relationships were found between experience and the type of questions asked. The author felt that the questioning by teachers is affected primarily by the types of school in which they teach.

EARL W. ANDERSON

HATFIELD, W. WILBUR, chairman. *An Experience Curriculum in English: a Report of the National Council of Teachers of English.* New York: D. Appleton-Century Company, 1935. xx+352 pp.

This book is the work of a Commission composed of one hundred successful teachers of English from all parts of the United States and represents five years of study. It seeks to devise a pattern curriculum in English from kindergarten through high school. The word pattern is aptly chosen, for a pattern is not to be worn, but is merely a means to assist in cutting a garment with allowance for individual differences. So this book is to help curriculum makers.

Acknowledging the impossibility of creating a single curriculum suited to different types of pupils and schools, the book presents certain essential principles and their practical application to the teaching of English. It covers the five major phases of English instruction: literature, reading, creative expression, communication (both oral and written), and corrective work.

As the title suggests, chief emphasis is laid upon experience. "The ideal curriculum," the report states, "consists of well-selected experiences." Out-of-school experiences are tied up with lessons in the book. Photoplays and radio programs, outside activities and interests, are all subjects for discussion in the

classroom. Spoken English must be shown to have a purpose—in conversing, telephoning, gaining interviews through questions and answers, and in conducting meetings and conferences. The report recommends that pupils be given more school experience in speaking, because the occasions for speaking in life are more frequent and more varied than the occasions for writing.

In the opinion of these one hundred teachers, the course in literature must not demand that all pupils read the same books, regardless of their capacities, personalities, and social situations, because it is a futile process to present books beyond the intellectual and emotional range of pupils. The literature course should be highly flexible, not rigid. Pupils in the future are to be given the experience of choosing books for themselves: "We [as teachers] should let boys and girls make choices between good and poor books while we are still at hand to help them establish standards." The book sounds a warning against trying to develop the reading habit through compulsion, rather than by stimulation and guidance.

The authors do not view with optimism the practical value of formal instruction in grammar as a means of forming correct speech habits. This is expecting too much of it, but the study of grammar is necessary, and recommended as an aid in the construction of effective sentences. Related to grammar is correct usage, which is not enshrined in books but finds its authority in the living language of today. According to these investigators, teachers of English must recognize the influence of geographical variations upon speech.

In the Appendices illustrative units of study and teacher education in English are discussed.

Since many schools are now constructing new courses in English (or perhaps should be), local committees will find this experience treatise useful in the attainment of their object.

EVALINE HARRINGTON
West High School, Columbus

RESEARCH DIVISION, NATIONAL EDUCATION ASSOCIATION. "The Nation's School Building Needs," *Research Bulletin of the National Education Association*, XIII (January, 1935), pp. 1–35.

In the spring of 1934, the Research Division of the National Education Association sent inquiries on school-building needs to all state departments and superintendents of cities with populations of over thirty thousand. Replies were received from 31 states, 49 cities having populations of over one hundred thousand, and from 114 cities with populations of thirty thousand to one hundred thousand. The material so obtained is organized around three objectives: recent trends in school-building construction; present school-building needs; and the problem, Did school-building construction before the depression exceed actual needs?

Based on usable returns from less than one-half of the states and from 90 cities with populations of over thirty thousand in other states, it was found that nearly seven hundred thousand pupils are housed in unsatisfactory buildings; more than six hundred thousand in portable, rented, or other temporary structures; and over four hundred thousand can attend school only part of the time because of inadequate housing; also that more than two million were attending small schools which in the judgment of the persons reporting ought

to be abandoned in favor of larger consolidated schools. It was ascertained that less than 5 per cent of the nation's school buildings have been constructed since 1930, one-third between 1870 and 1900, and 7.6 per cent during the Civil War.

After extensive calculations based on increased enrollment and expenditures for school buildings since 1918, the conclusion was reached that, in general, expenditures for school buildings since then have not been extravagant or unreasonable.

The study shows that to provide even the most inexpensive housing that would be at all satisfactory, large sums of money are urgently needed for school-building construction.

T. C. HOLY

BOYER, G. A., AND BEATTY, W. W. *Mathematics of Everyday Life: The Financial Relationships of Children to Parents.* Bronxville, New York: Bronxville School Store, 1935. 14 pp.

This pamphlet is the first of a series of units on the junior–high school level designed to "function with children" because they relate to the "interests and experience of pupils of this age level." The material is issued as an experimental edition, and teachers everywhere are invited to co-operate in its use. The pamphlet will appeal strongly to all those who believe in the proposition that education is life and that all arithmetic should be of the type that is obviously practical. Those who believe that mathematics has a deeper practical function as the gateway to the great world of human thought will probably find the content somewhat narrow. Nevertheless, the experiments at Bronxville are commendable and well worth watching.

W. J. OSBURN
Buffalo State Teachers College

Books to Read

CARTWRIGHT, MORSE ADAMS. *Ten Years of Adult Education: a Report of a Decade of Progress in the American Movement.* New York: Macmillan Company, 1935. xiv+220 pp.

Though the author does not, the reviewer will take the responsibility for the view that the three great achievements in American education in the last century are: the creation of a public school at all levels for civil purposes; the creation of scientific, technical, and vocational education for practical and economic purposes; and the opening of the vast field of adult education by agencies which still lack power, for purposes which are still somewhat nebulous. These agencies are becoming stronger, however, and these purposes are gaining in clarity. It is becoming clear that education beyond the formal school days is necessary to keep open a frontier not dependent upon free lands and rapid economic expansion.

While the term "adult education" may be new, the activity is at least a hundred years old and was embodied at that time in the mechanics institutes and the lyceums and later in Chautauqua and correspondence schools. The present book pays tribute to Frederick P. Keppel for bringing the support of the Carnegie Corporation to the movement for adult education. The American Association for Adult Education was formed in 1926. This book is a

survey of the problems, the experimental efforts, and the achievements of the last ten years. The longest chapter contains an appraisal of the work of thirty or more agencies engaged in adult education. These range from agricultural extension to workers' education. The presentations are necessarily short. The radio receives less than four pages. A table of "estimated" enrollments (page 60) indicates an increase of fifty per cent in the last decade, and the total number said to be "enrolled" in all the forms of adult education is in excess of twenty-two millions, one-fifth of the total population of the country.

There is reason to hope that the growth of adult education in the last decade constitutes definite progress on the road to a national culture and a change in our view of what constitutes the good life. So says the author; and the reviewer has to add that the book is like the summary which we have just quoted, placid and contented. It lacks the "bite," the fighting verve of the left-wing adult educators. Even the chapter on the problems which the movement faces (Chap. VI) does not indicate that there are two opposite philosophies of adult education. There is room for still another book on the subject.

H. G. Good

Scottish Council for Research in Education, Mental Survey Committee. *The Intelligence of Scottish Children.* London, England: University of London Press, 1933. x+160 pp.

As the first complete cross-section study of an entire nation, this monograph is decidedly important, especially for technical students of the problem of intelligence testing. A few conclusions should be noted. Apparently the Scotch have so standardized a test that the average intelligence quotient is actually 100, whereas the preponderance of expert opinion is that the average of American-born whites with the commonly used Stanford Revision is somewhat less than 100. The small difference in average score between boys and girls is probably an experimental artifact, but there seems to be a statistically reliable difference in variability: boys have a greater scatter in both directions from the average. This greater variability in the male has often been suspected, but so far as I know this is the first time it has been measured upon a wide base and in such fashion as to exclude sampling errors. The difference may still be dependent upon the specific test materials and be the result of training; it would still be real and significant.

Further, the deviation of both sexes from the average seems greater in Scotland than in Terman's standardization of the Binet. There is thus seen to be even greater need to adjust instruction to the mental age of the child. The percentage of school children with low or deficient "verbal intelligence" of the sort mostly demanded by our schools today seems higher than has been usually suspected, perhaps as high as 3 per cent. Actually about this percentage of "probably feeble-minded" persons has been found by a number of investigators in this country, but they have nearly always preferred to be "conservative" and have refused to accept the obvious interpretation of their own figures. (Quite clearly, however, conservatism may work in two ways.) Whether these three per cent are truly feeble-minded, they constitute a tremendous educational problem.

Horace B. English

INGRAM, CHRISTINE P. *Education of the Slow-Learning Child.* Yonkers-on-Hudson, New York: World Book Company, 1935. xii+419 pp.

The author divides slow-learning children into two groups: the mentally retarded, comprising about 2 per cent of the school population, with intelligence quotients usually ranging from 50 to 75, and the border-line or dull-normal, comprising 15 to 18 per cent of the school population, with intelligence quotients ranging approximately from 75 to 89. The book, however, deals chiefly with the education of the mentally retarded or subnormal child, as only one chapter of 25 pages is devoted specifically to the border-line or dull-normal child. This is justified by the author on the grounds that the same basic educational principles and methods used in the education of the mentally retarded are applicable to the less seriously handicapped.

The distinctive features of the book are the emphasis placed on understanding the child and on meeting his present needs; the description of the mentally retarded at different age-levels in terms of physical, social, and mental traits; and the setting-up of norms of achievement for the various age-levels without reference to traditional grade standards. Possibly the most striking difference between this and other books on the same subject is the great emphasis placed on units of work. The author states: "The unit of work, because it offers opportunity for attaining, in real and lifelike situations, learnings that have meaning and direct applicability, is one means whereby slow-learning children can achieve the attainments appropriate to their stage of growth." One-third of the book is devoted to a discussion of units of work. It is to be regretted that the author did not discuss the disadvantages as well as the advantages of the unit of work.

This book is a contribution to the education of the mentally retarded child by one who has had long and successful experience in teaching such children. The questions and suggestions for study and the selected reading references found at the end of each chapter add to its value.

CHARLES SCOTT BERRY

COHEN, HELEN LOUISE, AND CORYELL, NANCY G., editors. *Educating Superior Students.* New York: American Book Company, 1935. xix+340 pp.

In this series of co-operative studies carried on under the auspices of the Association of First Assistants in the high schools of the city of New York, the First Assistants have turned their attention to the gifted children. This book records the results of the studies of fourteen committees appointed to ascertain the status of the exceptionally bright children in fourteen subjects taught in the high schools. "The investigations were carried on by questionnaires, circulated in all the high schools, supplemented by interviews and by surveys."

This method has brought out answers or suggestions of possible answers to many questions peculiar to each individual topic as well as those common to all the topics. For example, How are the gifted in art, to be selected? What are the signs of giftedness in the arts? What are the arguments for and against homogeneous groupings?

The book is an education classic. It is no exaggeration to say that there is nothing else in print on the subject of the gifted child that begins to make the contribution to our knowledge and understanding, that this book makes. And not only of the gifted child, but of true insight into real education. Your

reviewer had thought to quote a few striking sentences; but there would be no stopping place. Every page presents "striking sentences." Superintendent Campbell says in the Foreword: "We as teachers are striving to enable each child to get as much out of life as it is possible for him to get, and to give as much service to society as it is possible for him to give."

As for the rest, the book must be read.

HENRY HERBERT GODDARD

GATES, ARTHUR I. *Generalization and Transfer in Spelling.* New York: Teachers College, Columbia University, 1935. vi+80 pp.

The author gives us herein an excellent review of previous investigations on the general question of generalization and transfer of spelling. He then reports in full detail investigations which were carried on in a New York public school under his general direction, giving copious references to other studies in the general field of spelling which have been carried on by his students at different times. The present investigation concerns itself primarily with the following problems: (1) relative ability of a group whose members were specifically taught to generalize as compared with a control group in the improvement of their spelling on words included in a preliminary test; (2) improvement on a list of words studied during the term, which words largely conformed to the rules and generalizations involved; (3) a test of ability to state rules which were involved and were taught to the generalization group; (4) a test of ability to spell derived forms of words which had not been included within their spelling work; and (5) a test of applying rules or generalizations to words which are given or to recall words containing similar elements to those found in given words.

The results show that the experimental group did slightly better on each of the first two types of tests, the difference, however, being statistically insignificant. On test three the control group did significantly better as would naturally be expected; the difference, however, faded to some extent with the pupils in the higher grades. In each of the last two tests the results are significantly in favor of the generalization group indicating that the type of generalization teaching provided for in the specific instructions given resulted in greater ability on the type of tests which were utilized.

E. J. ASHBAUGH
Miami University

SPAFFORD, IVOL. *Fundamentals in Teaching Home Economics.* New York: John Wiley and Sons, 1935. xiii+424 pp.

Miss Spafford recognizes that home economics has a more valuable contribution to make in the whole program of education than has yet been realized, and has written a book suggesting the place home economics should take in an integrated educational program. She does not discuss a philosophy for home economics, nor does she set up specific objectives for the subject. But she does propose a philosophy of education which "sees an educational program as worth while only as it helps the individual to live a satisfying life in an ever changing world. . . . This philosophy of education sees home economics as a medium having for its basic purpose the attaining of the objectives set up for all education." With this basic philosophy and purpose as a

starting point, the author discusses the values home economics has for all ages —children in the elementary grades, the high-school youth, and the adult— and applies the fundamental principles of learning to the teaching of home economics. The book is a scholarly piece of work which demands the reader's attention. Many illustrations and examples from life situations not only add interest but also convince the reader that the author's suggestions are practical and usable.

This is a forward-looking book. It points the way home economics must go if it is to keep step with the progressive movement in education. Home-economics teachers in service will find the book will help them to clarify their thinking and give direction to their work. For teachers in training it provides excellent source material. School administrators will find it an aid in evaluating the home-economics program of the school.

CLARA M. BANCROFT

* * *

Before Oswego

[*Continued from page 81*]

meticon, the arithmetical charts of Pestalozzi, specimens of the common weights and measures, boxes of the common solids and of forms and colors, a chart of forms, and the series of engravings of animals and aspects of nature, published by the Society for the Diffusion of Useful Knowledge.]

. . . . . .

One of the chief objects of interest to visitors at the Normal and Model School at Toronto is the ample means afforded for physical exercises. The grounds are larger than I have noticed anywhere else, and the covered grounds supplied with gymnastic apparatus deserve particular notice. These are not used by the pupils at discretion but they exercise under the direction of a master of the art of gymnastics. I saw these exercises continued through the greater part of an afternoon, and thought if the boys and girls of the Queen City were as well cared for . . . that they would become more worthy than now to call themselves the *sons* and *daughters* of the great *American Republic*.[2]

There is no intention to claim that Rickoff's introduction of Pestalozzian materials was influential beyond Cincinnati; nor is there any information to show how much influence it had in that city; but it is clear that E. A. Sheldon was not the first educator from the United States to visit Toronto and to bring back the materials for object teaching, materials which with all their deficiencies formed a step on the way to progressive education.

[2] *See* pages 75 and 85.

Substitutes for the "*IQ*"

AT THE meeting of the Clinical Section of the American Psychological Association at the University of Michigan in September the following report was presented by the Committee on the *IQ*, authorized by the Clinical Section of the American Psychological Association at the New York meeting in September, 1934.

"This committee was directed to consider a rather specific question in psychometric practice; namely, the age to be used as the divisor in obtaining intelligence quotients in the cases of subjects fourteen years of age and older. In the discussion on the floor several speakers seemed to imply that the *IQ*'s under discussion were Stanford-Binet *IQ*'s and that nothing else mattered.

"The Committee has felt that the question is much broader than this, and that the whole question of the use of *IQ*'s, not only in connection with the Stanford-Binet, but in connection with all tests of intelligence, is involved. The use of the *IQ* has led to much misunderstanding both among clinical psychologists and assistant clinicians, and among those to whom their psychometric results have been reported. It seems that it is full time for this Section to consider the alternative of either modifying practice so that the use of the *IQ* will be open to less objection ("patching up the *IQ*," this might be called), or adopting some substitute. Shall we patch up the *IQ*, or turn it in, and get a new model?

"The *IQ* has been oversold, and along with it we have foisted on school people, social workers, juvenile-court officers, parents, and others, a good many half-truths and misconceptions, some of which may be enumerated as follows:

1. That a "mental age" scale gives us units of mental maturity, and that the mental age derived from one test has the same significance as the same mental age on another.
2. That, for any intelligence test and at any age, there is a normal distribution of *IQ*'s, and that the central tendency for these *IQ*'s is 100 in unselected groups.
3. That, for any intelligence test, the *IQ* remains constant.
4. That the validity of any other intelligence test is measured by its correlation with the Stanford-Binet.

"The *IQ* as used has not only been misunderstood, but it fails to give any measure of deviation from norms for the

test used. The mental-age score on a given test may show that the subject is above or below average for his age, but neither this nor the *IQ* derived from it shows how much above or below the average his score may be, as would be the case if some measure of deviation like centile rank, probable error, or standard deviation were used. Miss Stutsman in her Merrill-Palmer performance scale for pre-school children has given tables for translating mental-age scores into measures of deviation, but most test norms include no such tables.

"The use of the Stanford-Binet for subjects over fourteen years of age has given scores so obviously contrary to the assumption that the *IQ* is constant that Pintner and others have suggested a modification of Terman's method of calculation, which has been rather extensively used. They divide the mental-age score by fourteen for all subjects fourteen years of age or older. Heinis has suggested his *PC*, or personal constant. This seems to give an index more nearly constant than the *IQ*, but both of these are methods of patching up the *IQ*, and both methods fail to give any index of deviation from the norms for the test in question.

"In the opinion of the Committee, it is undesirable to make further attempts to patch up the *IQ*. A notable example of a move in the right direction is that of the Merrill-Palmer scale just mentioned, and another will be found in the scoring of the Michigan Non-Verbal Series devised by the secretary of this Section, Edward B. Greene, University of Michigan.

"The members of the Committee are therefore agreed in recommending:

That a committee on substitutes for the *IQ* be appointed by the Clinical Section to report a year hence.

That this committee should give particular attention to substitutes that include some index of deviation.

That in the mean time members of the Association reporting mental ages or *IQ*'s should designate the test on which these are based and the chronological ages of the subjects."

THIS report led to the continuation of the Committee with instructions to report recommendations in regard to substitutes for the *IQ* at the 1936 meeting. There are two reasons why it has seemed desirable to publish this preliminary report in the EDUCATIONAL RESEARCH BULLETIN. First, those who

are interested in educational measurement have not only made extensive use of intelligence quotients derived from a variety of tests, but have used a number of similar indexes, educational quotients, reading quotients, arithmetic quotients, achievement quotients, and the like, which are open to similar objection. Second, in preparing its report the Committee will be glad to receive suggestions in regard to alternates or substitutes which have been found to be desirable in practice or may be recommended on theoretical grounds.

The educational age derived from an achievement test gives no measure of deviation except to indicate whether the score is above or below the norm; no more does the educational quotient. Nor do two equal educational quotients derived from scores on two different tests have of necessity the same significance. Translation of indexes of this kind, or of raw scores, into centile rank or standard scores expressed in units of standard deviation would be preferable. In scoring the reading test of a pupil eight years old in the third grade we may get a "grade-level" of 3.8 and "age-level" or "reading age" of 9.0 years. But neither his raw score nor either of these derived indexes shows how much he ranks above average among other eight-year-old children or among other pupils in the third grade.

To express these deviations in standard scores is statistically sound, but this is open to objection because of zero and negative values. No one can expect to make a parent happy by telling him that his boy's reading score is "just about zero." One method of obviating this difficulty would be to translate raw scores into standard scores expressed in units of standard deviation, multiply each by 10, and add it to 100. Indexes thus derived would mostly fall between 75 and 125, 100 being median or average. Conversely, indices of 85 and 120 would indicate standard scores of -1.5 and 2.0, respectively.

FRANCIS N. MAXFIELD